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## THE EDITORS SAY:

### What Are We Waiting For?

The conservation of talent may be more vital to survival at present than in any other period in our history, but the idea is by no means new. Twenty-three hundred years ago Xenophon, in his *Memorabilia*, gives an account of how Socrates identified those who should be trained for leadership:

He judged of the goodness of people's abilities from their quickness in learning the things to which they gave their attention, from their remembrance of what they learned, and from their desire for all those branches of knowledge by means of which it is possible to manage a family or an estate well, and to govern men and their affairs with success; for he thought that such characters, when instructed, would not only be happy themselves, and regulate their own families judiciously, but would be able to render other men, and other communities beside their own, happy.<sup>1</sup>

It was a long wait from Socrates to the late Lewis M. Terman, who gave us our first objective instrument for identifying the intellectually gifted, as well as the inspiration to use it as a means of prognosis and guidance. In the preface of his *Genetic Studies of Genius*, he states:

It should go without saying that a nation's resources of intellectual talent are among the most precious it will ever have. The origin of genius, the natural laws of its development, and the environmental influences by which it may be affected for good or ill, are scientific problems of almost unequalled importance for human welfare. . . . It is hardly too much to say that this field at present is the "Darkest Africa" of education. To what extent genius can be created or destroyed by right or wrong training is entirely unknown.<sup>2</sup>

In the same volume, Dr. Terman blames the slow development of this area of research to the tardy birth of the biological sciences, psychology, and education. In the thirty-three years since the publication of *Genetic Studies of Genius*, we have made phenomenal strides in all of the areas of research which would throw light on the "Darkest Africa" of education. We are optimistic to the extent that we feel there are some bright spots. We may even lean back in our academic chairs and say, "If we made more progress in thirty-three years than in the previous twenty-three hundred years, that is speed." In this space age, however, we do not think in terms of a generation. If we are to conserve talent for survival, now is the time. What are we waiting for?—L.L.B.

<sup>1</sup>Xenophon, *Memorabilia*, translated by J. S. Watson, Book IV, Chapter I. Reading, Pa., Handy Book Co.

<sup>2</sup>Lewis M. Terman and others, *Genetic Studies of Genius*, Vol. I. Stanford, Calif., Stanford University Press, 1925, pp. vii, viii.

# The Conservation of Talent in the USSR

HENRY CHAUNCEY

The significance of the phrase, "conservation of talent," is quite different in the USSR from what it is in other countries of the world. Talent to the Russians means 99 per cent of the population, not 5, 15, or 25 per cent. The Russians believe that all but the less than 1 per cent of the population who are physically or mentally defective are able to absorb and profit from a rigorous academic program. Their stated aim is to carry all students through the tenth grade, which is the equivalent of the twelfth grade in this country. In fact, at the present time where ten-year schooling is available, they claim to be getting 80 to 85 per cent of the population through the tenth grade, and another 15 per cent through the same academic program along with technical training in institutions called technicums. The Russians are so utterly convinced of the trainability of all but the mentally defectives that they scrupulously avoid separating students into different schools or different programs. One can go to a technicum after the seventh grade, but this is voluntary and requires the passing of special examinations, so that the students going to technicums are the equal academically of those who stay in the ten-year school.

Guidance, as it is known in this country, is non-existent in Russia and, in fact, the term is not understood. They do not use tests and they do not have guidance counselors. There is no real necessity for either since every student takes exactly the same rigidly academic program. The motivation for education is so high in Russia that students of limited ability have been able to get through this solid academic program and become part of what the Russians speak of as "a reservoir of trained people who are capable of going on to specialized vocational training or higher education." This gives

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them a flexibility to meet the demands of the future. To them, "conservation of talent" means full exploitation of all talent rather than development of individual or particular talents.

Recently there have been indications that all was not well with this massive approach to the academic training of all students. Several years ago polytechnical training (shop work of all sorts and experience in industry or agriculture) was introduced, not as an elective, but as another element in the required program. Subsequently, the extent of this polytechnical work was increased. Last spring Khrushchev stated that students should spend two years in industry or agriculture before going to the university, and in September he urged a change in the educational system which would require all students to work full time during the last two years of school, taking their schooling in the evening. This same part-time approach would continue during the first two or three years of university education.

It is obvious that the academic program has been given on too broad a front. Many more students were trained for higher education than the universities and the institutes could admit. More important still, students were not being trained for work in industry, where they were needed. In Khrushchev's recent article in *Pravda*, there is the suggestion that the programs in the eighth, ninth, and tenth grades might be different for different students and also that the very ablest students might go directly to full-time work in the University. It would appear likely that Russian education will before long take account of individual differences and provide different kinds of programs, at which time guidance will become necessary.

### Extra-Curricular Program

The regular school system of Russia does not provide special opportunities for talented individuals except in the case of art, music, and ballet, for which there are special schools. There is, however, an extensive extra-curricular program which gives individuals the opportunity to explore fields that may seem to be of interest to them. These are the "circles," or clubs, in the Pioneer Palaces and sometimes connected to the schools themselves. There are circles of all sorts, such as physics, music, stamp collecting, chess, mathematics, sewing, and dancing. Some of these circles give students the opportunity to do advanced and specialized work in academic subjects. A circle in physics would ordinarily be supervised by an instructor or graduate student at the university who may take particular interest in the abler students and give them a good deal of advanced work. The circles, though not a formal part of the school program, do play a very significant part in the total educational picture in Russia and, on a trial and error basis, do provide guidance of a sort.

The very ablest students are motivated still further by competitions known as "Olympiads." These are conducted in all academic subjects.

(Continued on page 213)

## Current Trends In Scandinavian Education

BJORN KARLSEN

Recent developments in technology have stirred up a renewed interest in European schools among our educators. Most recent writers who advocate that educators in the United States should study European schools do so because they admire "the European approach" and think that we have much to learn. These writers, mostly non-educators, have failed to understand that our schools have been used as models for many foreign countries in the past 25 years. This has been particularly true in the Scandinavian countries. The pioneer writings of such Americans as Helen Parkhurst, Carleton Washburne, John Dewey, and E. L. Thorndike are just as familiar to the Scandinavian educators as they are to us. Most of the recent trends in Scandinavian schools have been the result of the American influence. The many books about education in Scandinavian countries contain an undisguised undertone of admiration. One could summarize what has been happening in Scandinavian education after the war by saying that the schools have been "Americanized," which would be a fair and quite adequate description (15). This trend is quite apparent to their educators, and from time to time one can read warnings against going too far and losing the good features of the existing system. It must, therefore, be somewhat amusing to the Scandinavian educators to observe this increased desire in our country to pattern some schools after European practices. A German educator who visited the United States in 1950 also noted this tendency with considerable astonishment (18).

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Before going further, it would seem imperative that some terms be clarified. Reference is frequently made to "European schools." This term is even more difficult to define than "American schools." Which school do we mean when we talk about "American schools"? Do we refer to the schools of New York City, and if so, which one, or to those of Detroit, Little Rock, or El Paso? Likewise, to what European schools do we refer—the English college preparatory school, the elementary school of an Italian village, or the boarding school for Laplanders in North Norway? Generalizations about these schools are indeed difficult to make. Nevertheless, there are certain things that European schools, or at least Scandinavian schools, have in common, certain trends that are discernible even though they are at different stages in their implementation. In Scandinavia, as in the United States, new trends tend to originate in the cities and spread to the rural communities. The major changes, however, are generally made on the federal rather than the local level, which results in slow but carefully considered changes. The rapid modifications of educational philosophies and practices that have taken place in the United States in the last two years would need many more years to be implemented in any of the Scandinavian countries. In the United States, the policy-making body is much closer to its level of implementation, and new ideas are at times put into practice without careful study. When the people and government of Sweden decided to reform their entire school system, a large committee of professional educators was appointed in 1940 to outline new courses of study and new methods of teaching for the entire educational program. This committee was replaced in 1946 by another one which consisted mainly of lay people. The program itself was initiated on an experimental basis in 1950 and is still in progress (2). The slowness of this approach has been considered a drawback by Swedish educators, one of whom said that ". . . in the meantime society continues to develop, and the school reform is perhaps out of date by the time of its implementation." (1, p. 19, translated by the writer.)

Before reading about current educational trends in a country, the reader should have some familiarity with that country itself. With respect to Scandinavia, it would be necessary to understand such things as its history and traditions, economics, population growth, geography and transportation, and public attitudes about education. Space is too limited for a discussion of these problems, as well as for a detailed description of the organization of the schools. There are many references available on these topics. This author has chosen to take the next step in the analysis of education, namely that of attempting to extract the underlying trends and changes that are taking place in Scandinavia (Norway, Sweden, and Denmark). Although an attempt will also be made to discuss the education of the gifted youngster, it would certainly be unfair to put a great deal of

emphasis on this phase of Scandinavian education, since it is currently not of primary concern in these countries. As a matter of fact, the dominant emphasis is upon educating all children, not just the capable ones.

The task of drawing conclusions from present literature and practices in Scandinavian schools abounds with pitfalls, and the possibility of error is great. The author has tried to avoid this by presenting trends that have been stated at least implicitly in the original literature of these countries, and that he has observed personally.

## Current Trends

**1. Philosophical trends.** All Scandinavian schools have undergone major changes in the past 20 years. These changes have been attempts to expand from a formal, content-oriented school to a school where the primary objective is the development of the child as a democratic citizen (5). The "3 R's" have been de-emphasized, much to the displeasure of some traditional high school teachers! Also, learning for learning's sake has been reduced, with an accompanying increase in emphasis upon the solution of practical problems. For example, instruction in Greek and Latin in the Norwegian high schools is virtually extinct. All the children attend the same elementary schools for a longer period of time. While the transition to differentiated schools used to be made at the end of the fourth grade, Norway raised this to the seventh grade before World War II. Sweden introduced a similar program in 1950, but Denmark is still using the early differentiation (14). This new trend is deemed more democratic as well as more psychologically sound, since an adequate differentiation is difficult to make in the fourth grade (1).

In the past, the secondary schools have been organized into "lines." The student decides which set of courses he wishes to take. Generally, he has a choice of three main emphases: modern languages, classical languages, and sciences and mathematics. Once he decides on a "line," his schedule is a prescribed one from which he cannot deviate. The Swedish school reform departed radically from this pattern when it introduced electives at the seventh grade level. This was an extreme deviation from the traditional school, obviously inspired by American practices. There is little question in this writer's mind but that this will be copied by the Norwegian and Danish schools in the near future.

**2. Child-centered trends.** The field of educational psychology is highly developed in Scandinavia (especially in Sweden and Denmark), primarily because of the increased prevalence of a child development point of view in school learning. The personal and social development of the youngsters is considered as important as their intellectual growth, and the teachers

have become interested in children's needs and problems of motivation. As a result, increased use is being made of the unit method of teaching. This trend is noted particularly at the elementary school level, as is probably the case in the United States. The teacher training institutions are placing an increasing amount of emphasis upon the study of child development and educational psychology. (Their development of "methods" classes leaves much to be desired, however.) Along with these changes in emphasis has evolved a strong desire for educational research (10), definitely a post-war phenomenon. Hence, the research available is spotty. The research methodology is purely "American"; most of the bibliographical references are well known to the educational researcher in the United States.

**3. Instructional trends.** Although the switch toward a child-centered school has been almost drastic in many schools, the teachers have been very reluctant to lower their standards for scholastic achievement. It seems that in many school systems modern methods have been used to obtain traditional objectives as well as to achieve the objective of training for citizenship. Many of these educators think that the schools in the United States have gone overboard, not in making school more interesting for the pupils, but in lowering standards of achievement. Homework is still generally given every day from the first grade on, and it is only recently that the Norwegian children have had no homework over the weekend, i.e., from Saturday afternoon to Monday morning.

Since all children are spending more years together before being separated in college preparatory high schools and vocational schools, the problem of dealing with individual differences is one of considerable concern. Four solutions are being used: 1. The promotion policy of letting the bright child skip one year while the slow learner is retained one year. In Sweden, this is done preferably at the kindergarten level (1). 2. Small classes, with no combination grades in the large schools. (Norway set a limit of 30 pupils per class by federal law in 1939.) 3. Individualization of instruction. This solution is suggested almost as a panacea for most of the problems of the classroom (1). 4. Specialized services, including psychological and medical assistance, as well as special classes for the physically and mentally handicapped children (5). Some attempts have also been made toward the unification of school districts, but this program is essentially in its infancy (11).

**4. Guidance trends.** One thing about our schools that impresses the European educator is the guidance program, and many of them think of such a program as the main difference between schools in the United States and in Europe. Three aspects of a guidance program have gradually evolved in Scandinavian schools: a testing program, utilization of school psychologists, and vocational counseling. These have been developed

mainly since the last war. Testing is still limited to achievement testing and perhaps occasional group intelligence tests. The school psychologists have been lifting themselves by the bootstraps professionally; many of them, probably over half in Norway, have had some training in the United States. This field has been more developed in Denmark, where the interdisciplinary approach has been utilized even more than in the United States. One of the significant and unique features of the new Swedish school reform was the introduction of vocational guidance in high school (1). It is indeed of interest to note how they attempt to interject it into an existing, excellent program of vocational training. They have adopted American ideas of vocational counseling, but are coordinating this with their theoretical training as well as placement in industry. Attempts are being made to tie the schools and industry closer together (2).

**5. The gifted child.** The trends described thus far are current ones and mostly of recent origin. In the field of special education, however, the Scandinavian schools have done an exceptionally fine job for many years. Handicapped children have been taken care of adequately, and special classes and schools of many kinds have been in existence for years. However, very little is being done for the scholastically gifted child. The educators realize that at the high school level the training of bright children is the ordinary situation, and they are now primarily concerned with rectifying this overemphasis. The bright children have not been a special group of children; it is the average ones who have been in a minority and who have generally failed to adjust to the college preparatory "gymnasium" (12). The percentage of failure in these schools is extremely high, at times close to 50 per cent. While 25 per cent of the Norwegian students continue to high school, only about 12 per cent eventually graduate from the "gymnasium" (5). A large percentage of the ones who do not complete the full five years complete three years and graduate at an in-between stage which, in level of accomplishment, is comparable to our public high schools. Standards for admission to these schools are quite lenient, and usually are based on scholastic achievement as revealed by grades. Practically all examinations are of the essay type (17). There is no given percentage of pupils who are admitted, and grading is generally done on the basis of "absolute standards." In their enthusiasm over the new school reform, the Swedish educators anticipate that the choice of a college preparatory course will be left up to the individual student after proper testing and guidance (1). They have tried to build vocational schools that are as attractive to the students as the regular "gymnasium," but it will take many years before the two will have equal status in the people's minds.

There are few countries in the world where adult education is considered of more importance or is more advanced than in Scandinavia. The Danish folk high schools have been copied by a number of countries.

Many people manage to graduate from the "gymnasium" by going to evening school. This trend is encouraged by educators who want people to feel that the doors to further education are never closed.

At the present time a few educators have expressed concern for the talented children and their education (1). This concern has been provoked by two developments, the increased enrollment in the high schools and the prolonged, undifferentiated elementary school (13). It will no doubt become of considerable concern in the near future, as these precipitating factors become more and more influential.

## Factors Influencing Evaluation

It is indeed difficult to explain and interpret what goes on in the schools of a country without ascertaining that the reader has an adequate understanding of the internal affairs and traditions of that country. In a small country like Norway with a mere three and one-half million inhabitants, there are two official languages or idioms. This means that all textbooks for the elementary schools must be printed in both languages, and since the orthography of these languages changes considerably every decade, the textbook situation places a heavy burden on the country's economy. Books also need to be printed for the Laplanders, who speak their own language. There is a multitude of problems like these that are difficult for the outsider to evaluate, understand, and accept.

When evaluating the school system of any country, it is necessary to do so from the standpoint of what its people are trying to accomplish (7). It is very unfair to compare the achievement in mathematics of a high school student in the United States with that of a student in a college preparatory high school in Europe. We must concern ourselves with educational objectives and philosophies first of all. In this respect the developments in the Scandinavian countries are of great interest to our educators, since these countries have virtually a 100 per cent literacy rate, and their schools are among the best in Europe. (Sweden may have the best in the world.) The reader has, no doubt, been able to discern a parallel between the trends in Scandinavian education in the last 20 years and what has happened in the United States since World War I (16). The two developments are so similar that the handling of any particular educational problem in Scandinavia can be assumed to be the same as here. Our nation can pride itself upon being considered by Scandinavian educators as a leader in the field of education.

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## Selection for Grammar Schools In England and Wales

D. A. PIDGEON

In England and Wales the organization of secondary education for the academically gifted has undergone considerable modification since the Education Act of 1902. This Act empowered the newly constituted Board of Education and local education authorities to create secondary schools for that minority of children whose abilities and inclinations fitted them to pursue the advanced studies necessary for entry into a university, the service of the state or Church, or one of the professions. Although the newly created secondary schools—generally known as grammar schools and modeled largely on the older endowed and independent establishments<sup>1</sup>—proved to be highly successful, it soon became apparent that the proportion of children admitted to these schools from the lower socio-economic groups was too small to afford adequate opportunities for secondary education to the more gifted members of those sections of the community. The grammar schools, maintained by public funds, were required to offer 25 per cent of their available places to those children in attendance at the elementary schools who earned scholarships at the age of eleven. The remaining places were open to those children whose parents were willing to pay fees for their attendance. A report published by a

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<sup>1</sup>These, paradoxically, are usually described as "public" schools. In fact, they stand outside the state system and, because of the high level of tuition fees required, are for the most part restricted to the wealthier sections of the community.

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Consultative Committee set up by the Board of Education in 1926 (the Hadow Report) recommended that the national system of education should be organized in two stages—primary, to the age of eleven, and secondary, in two types of school. The grammar schools were to continue as before, but those children who failed to secure admission either as scholarship winners or fee-payers were to enter upon a secondary school course of a more practical and vocational character than that provided by the grammar schools. In 1939 a second Committee, set up to inquire into the possible forms that the organization of secondary education could take, advocated in its report (the Spens Report) what has since come to be called the "tripartite" system, consisting of grammar, technical, and modern schools. It was the 1944 Education Act, however, that, by abolishing the payment of fees in grammar schools, created the framework of a system of secondary education for all in which the duty was imposed upon the local education authorities to provide schools which offered to their pupils "such variety of instruction and training as may be desirable in view of their different ages, abilities, and aptitudes."

Thus today, although through social influences the pattern of secondary education in England and Wales is still changing, the reports and enactments of the past few decades have imposed upon local authorities the task of ascertaining at the age of eleven the "abilities and aptitudes" of the primary school leavers in order that they may be allocated to appropriate secondary schools. It should be made clear, however, that for two reasons this task has become, for most authorities, one of *selection* for grammar schools. In the first place, the majority of the population, parents and children alike, has come to regard a grammar school course as the pre-eminent type of secondary education,<sup>2</sup> and, in the second place, the organization of technical schools has been in a constant state of flux since the end of the war and in few authorities does this type of school compete seriously with the grammar school in parental esteem.<sup>3</sup>

It would be simple if the selection procedure for a typical education authority could be given, but unfortunately no such authority exists. There are almost as many ways of carrying out this task as there are authorities. Nevertheless, nearly all set some form of examination, usually about midway through the last primary school year, and for most this examination consists of standardized tests which have been prepared by Moray House<sup>4</sup> or the National Foundation. Over 90 per cent of the 146 local education authori-

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<sup>2</sup>*Secondary School Selection*, Ed. P. E. Vernon. Report of British Psychological Society, Methuen, 1957.

<sup>3</sup>An account of the changes in technical education in England and Wales will be found in a forthcoming report—*Our Schools in a Technological Age* by A. J. Peters, N.F.E.R. Publication No. 13.

<sup>4</sup>The Department of Education, Univ. of Edinburgh. Produced by a trust set up by the late Sir Godfrey Thomson, Professor in the Department.

ties, for example, use a standardized test of verbal reasoning or, as it used to be called, an intelligence test, mainly since evidence from follow-up research<sup>5</sup> has demonstrated that this type of test predicts future academic success more effectively than any other kind of test. Also employed by nearly three-quarters of the authorities are standardized tests of English and Arithmetic, replacing the more traditional type of examination paper previously used. It is a point to note, however, that whereas the verbal reasoning tests employ, for the most part, "multiple choice" responses, the items in the arithmetic tests, and more recently in the English tests, are of the "creative response" kind. Research work<sup>6</sup> has in fact shown that English tests allowing a greater freedom for written expression are more effective predictors than strictly objective "tick, cross, or underline" tests, and, moreover, impose less restriction on the teaching in the primary schools.

Technically, these standardized tests are sound instruments. Kuder-Richardson reliabilities are of the order of .98, and re-test correlations seldom drop below .96. Predictive validity coefficients for single tests well in excess of .80 have also been demonstrated.<sup>7</sup> By general agreement, scores on these tests are expressed in the form of *standardized scores*, that is, normalized scores, incorporating an age allowance, having a mean of 100 and a standard deviation of 15. Age allowances are necessary since the tests are administered to at least a complete year group, and without them an undue proportion of older children would be awarded grammar school places.

In addition to setting an examination, nearly all authorities incorporate into their procedures an assessment obtained from the primary school head teachers. Owing to the very large variations that occur among primary schools with respect to the ability range of their pupils, literal gradings have been found to be ineffective,<sup>8</sup> and some form of scaling is necessary. A relatively simple scheme whereby orders of merit of the suitability of their pupils for an academic course of secondary education obtained from primary school head teachers can be scaled against the results of a verbal reasoning test administered as part of the selection procedure was suggested by the Foundation and is employed by many authorities. Research carried out at the Foundation<sup>9</sup> have demonstrated that assessments quantified in this way predict future success better than any test or other form of assessment.

Some local education authorities use the results of ability and attainment

<sup>5</sup>Alfred Yates & D. A. Pidgeon, *Admission to Grammar Schools*. Newnes Educational Publishing Co., Ltd., 1957.

<sup>6</sup>op. cit. Chapter 5.

<sup>7</sup>loc. cit.

<sup>8</sup>McClelland, W., *Selection for Secondary Education*, U.L.P. 1942. Also *The Scaling of Teachers' Marks and Estimates*, McIntosh, D. M., Walker, D. A., and Mackay, D., Oliver & Boyd, 1949.

<sup>9</sup>*Admission to Grammar Schools*.

tests given at an earlier stage in the primary school and entered on Record Cards to assist in determining a child's suitability for a grammar school. Others set a further examination, consisting of locally constructed papers designed to discriminate in the upper levels of the ability range, to a smaller group of children already selected by a battery of standardized tests. Many set an English essay to augment the standardized tests, and a few attempt to collect and utilize assessments of personality, although research in this field suggests that not only is this a difficult task, but from the predictive point of view unrewarding.<sup>10</sup> Finally, and in view of research evidence, surprisingly, nearly half the local education authorities in 1956 still interviewed children, although in all but one or two this procedure was confined to children on the narrow borderzone around the passing mark.

In view of the varying procedures employed it is difficult to estimate the over-all efficiency of grammar school selection in England and Wales. From data obtained in a Ministry of Education survey<sup>11</sup> a coefficient of .80 has been estimated. It is possible that this average figure might be nearer .85, since values as high as .92 have been calculated from the Foundation's follow-up studies. Even accepting the lowest figure, however, it is clear that a very high level of efficiency is obtained although, at best, it would indicate errors in allocation in excess of 10 per cent of an age group.

For the country as a whole, approximately 20 per cent<sup>12</sup> of the children receive a secondary education in grammar schools or in academic courses provided in other types of schools. This figure, however, varies from as low as 10 per cent in some industrial Boroughs also equipped with Technical schools to over 50 per cent in some parts of Wales. The grammar schools provide long courses for pupils up to the age of 18, mainly in academic subjects, and these courses become increasingly specialized in the later years. The main examination is the General Certificate of Education, for which eight examining boards connected with the universities and one national board are responsible. Papers are set at three levels, "ordinary," taken by most pupils at 16, and "advanced" and "scholarship," usually taken at 18. More than half the grammar school pupils, however, never reach the advanced level, and leave at 15 or 16 to take a job or to follow a vocational course. Indeed, only 28 per cent of them (that is 5.5 per cent of all pupils) continue their full-time education at universities, teachers' training colleges, technical and commercial colleges, art schools, and other establishments of further education. The proportion of school leavers entering university is estimated at about 2.4 per cent.<sup>13</sup>

<sup>10</sup>Admission to Grammar Schools, Chapter 9.

<sup>11</sup>Standards of Reading 1948 to 1956. Ministry of Education. H.M.S.O. 1957.

<sup>12</sup>Education in 1956. Ministry of Education Annual Report, H.M.S.O.

<sup>13</sup>op. cit.

(Continued on page 214)

# A Comparison of the Achievement of Three Academic Groups

## Initial Exploration on the Davis Campus

DONALD F. HARDER

The University of California at the recommendation of the Scholarship Committee and the President's Council inaugurated at the beginning of the Fall 1957 semester a program recognizing superior high school achievement on the part of entering freshmen students. On the Davis campus 62 entering freshmen were awarded Honors at Entrance certificates at a public ceremony and were commended for their accomplishment. It was anticipated that these students would continue to do superior scholastic work in college. This study was initially conceived as a follow-up study of the achievement of this group.

At about the same time the Office of the Dean of Students on the Los Angeles campus in cooperation with the Student Counseling Center initiated a study of a group of High Potential Freshmen, offering them intensive testing, counseling, and instruction in study methods. The purpose was to help them achieve in college at a level consistent with their potential capabilities. They used as a criterion for inclusion in the group a total score on the **American Council on Education Psychological Examination** in the top ten percent of all college freshmen. Taking a cue from that study, a similar group was identified from the entering student group on the Davis campus. A sampling of entering students provided a third, and control, group.

The purpose of this study is to compare these three groups with respect to several variables: scholastic aptitude, reading ability, number of units attempted, and grade point averages for the first semester. It is anticipated that this will be a continuing study, and will be concerned not only with the achievement of these groups as they progress through college, but also will include successive, similar groups as they enroll in the fall semesters.

### Populations

1. Honors At Entrance (HAE)—a group of 62 students accorded recognition by the University for superior high school achievement. Superior

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achievement was defined as nearly an "A" average in University required courses. One "B" was permitted, and, in some instances, two. Seventy-seven per cent of the group were women, a proportion significantly higher than for the entering student group as a whole.

2. High Potential Freshmen (HPF)—all new students scoring in the top decile of the American Council on Education Psychological Examination using Davis degree norms. These norms are of local construction and include no special or two year students. Of a total of 72 students, 55 per cent were women and 45 per cent men. This proportion of men to women approximates the proportion found in the total entering student group. Fifteen, or 24 per cent of the group, are also included in the HAE group.

3. Control Group (CG)—a group of 63 students representative of the total entering student group with respect to sex, average total score on the ACE, and variability on the ACE. The selection was made by random means except that no overlap with the two previous groups was permitted.

## Variables

1. American Council on Education Psychological Examination (ACE) Form 1952, a test of scholastic aptitude, was used for an estimate of academic potential. This test is given as one of the College Aptitude Tests required of all new students of less than junior standing. Since not every new student takes the test, a bias of unknown dimension may have been introduced.

2. Cooperative Reading Test, Form Z, a test of vocabulary, speed of reading, and level of comprehension. A total score is taken as the best measure of reading ability. As with the ACE, not all new students take the test as required.

3. Number of units attempted, a figure obtained from regular reports of the Registrar's Office.

4. Grade point average, computed by dividing the number of units attempted into the number of grade points received, a figure also obtained from official records.

## Method

Means and variances for each variable and for each group were calculated. F and t ratios between groups were computed. Where the F ratio was not significant the t test was computed by basing the standard error of the difference upon the pooled sums of squares and degrees of freedom.<sup>1</sup> Where F was significant Cochran and Cox's approximation of t was used.<sup>2</sup>

<sup>1</sup>Allen L. Edwards, *Experimental Design in Psychological Research*, New York, Rinehart and Company, 1950, p. 150.

<sup>2</sup>William G. Cochran and Gertrude M. Cox, *Experimental Designs*, New York, John Wiley and Sons, 1950, p. 92.

## Results

Means and standard deviations of the variables for the three groups are presented in Table I.

It will be observed that the means for the three groups on tests relating to scholastic ability run in an order that might be expected. The relatively low variability on the ACE for the HPF group is explained partially by the method of selection, i.e., scores only in the top decile (making for a homogeneous group). That a similar "order" of reading scores is found can be explained in part by the known correlation between measures of scholastic potential and reading. For these two variables the median correlation is .65<sup>3</sup>.

Grade point achievement, however, does not appear to follow in the same order. For this variable the HAE group is clearly superior, followed by the HPF group. The CG shows slightly above a "C" average, and is probably an underestimate of the total entering student average since it contains no student who scored in the top decile of the ACE and no student accorded Honors At Entrance. A truly random sample undoubtedly would have contained some.

Table II presents the results of tests of significance for the variables in question.

The differences between means of the groups were statistically significant at the .01 level for each variable except Units. For this variable we recognize the "ordering" seen in the case of the ACE and Reading, but the differences are not significant. The only significant difference in variability between groups is between HPF and HAE on the ACE.

## Discussion

The expectation of continued superior scholastic achievement on the part of the Honors At Entrance students seems to have been fulfilled. With an average ACE total score equivalent to the 75th percentile for Davis entering students (a score higher than that obtained by 3 out of 4 entering students), they have achieved a grade point average of 2.97 — roughly equivalent to a "B" average. Further evidence of scholastic superiority is found in the fact that nearly half of the group will appear on the Dean's Honor Roll, and that only four of the group made lower than a 2.00 grade point average. This group, endowed with better than average scholastic potential, seems to have a "habit of success" in school subjects. One might venture to say that motivation to get grades carries over from high school to college.

If we consider measured scholastic aptitude as the predictor of college achievement, the High Potential Freshmen group undoubtedly would be placed at the top of the list. Their average total score on the ACE is

<sup>3</sup>Donald E. Super, *Appraising Vocational Fitness by Means of Psychological Tests*, New York, Harper & Brothers, 1949, p. 118.

TABLE I

Means and Standard Deviations for Each of Four Variables on Each of Three Groups

Group	<i>The Variables</i>							
	X	ACE S.D.	X	Reading S.D.	X	Units S.D.	X	GPA S.D.
High Potential Freshmen	148.4	8.91	69.9	8.20	15.1	1.32	2.66	0.67
Honors at Entrance	128.0	17.44	64.5	11.01	14.9	1.32	2.97	0.63
Control Group	114.4	13.39	59.8	6.48	14.6	1.52	2.18	0.59

TABLE II

Tests of Significance of Differences Between Groups on Four Variables

Group	<i>The Variables</i>							
	t	ACE F	t	Reading F	t	Units F	t	GPA F
High Potential Freshmen	7.54	1.96	3.98	1.34*	0.87*	0.00*	2.72	1.06*
Honors at Entrance	4.73	1.30*	3.74	1.69*	1.17*	1.15*	4.22	1.08*
Control Group								

\*Not significant at the .01 level.

equivalent to the 96th percentile on Davis norms as well as on national norms. Instead, we find average achievement for this group only a little better than a "C". It would seem that, not having been motivated to get high grades in high school, sufficient motivation for superior college achievement has been lacking. Of the 18 students in this group qualifying for the Honor Roll, 13 also belong to the HAE group. Ten of the remaining 54 students in this group failed to make a 2.00 average.

The writer has been unable to obtain an average grade point average for the 1957 freshman group, consequently, it is difficult to evaluate the 2.18 shown in Table I for the control group. This average is apparently slightly below the all-campus average of 2.44 (a figure obtained at the Registrar's Office), a finding not inconsistent with our expectations. Even so, five of the students in this group made grade point averages of 3.00 or better, while 20 made less than a 2.00 average.

We have tended to account for differences in achievement by postulating differences in motivation. Obviously, this is an oversimplification. It may well be that high achievers do well in high school not only because they are motivated, but also because they know how to achieve. Perhaps they have learned study habits and skills which make them capable of demonstrating their abilities. Students as capable, or more so (as seen in the HPF group), may not achieve high grades because they have not yet learned these skills.<sup>4</sup>

The results of this study tend to show that a well-established finding has local application: namely, that high school achievement is the best single predictor of college success. Achievement reported as rank in class is somewhat superior to average grades. The median correlation is .55 for rank in class, .45 for average grades.<sup>5</sup> A combination of high school record and aptitude test score is said to enhance the prediction, but in the case of the groups studied it is difficult to see how the "misses" in prediction would be materially reduced by using such a combination.

## Summary

Three groups of entering students, differentiated by high school achievement and measures of ability, were compared with respect to college achievement after one semester. Those students who had achieved highest grades

<sup>4</sup>Comment: Most college instructors expect that high school training in study skills should be sufficient for a student's entire academic career and that to give them any special assistance in this matter is to "coddle" them. We submit that one of the most important personnel functions of a university is to help the student learn to learn (study), and that this is a necessary antecedent to the accomplishment of the aims of the instructor.

<sup>5</sup>F. E. Lindquist (ed.), "The Function of Measurement in Educational Placement," in Henry Chauncey and Norman Fredericksen, *Educational Measurement*, Washington, D. C., American Council on Education, 1951, p. 88.

in high school (Honors At Entrance) continued high level achievement in college. Those students selected because of high placement on a test of academic potential (High Potential Freshmen) did noticeably poorer academic work. A sample of students (Control) which included no honor or high potential students made barely over a 2.0, or "C", average.

The groups differed significantly on each variable under consideration except for the number of units attempted. It was postulated that the differences in achievement could be attributed to differences in motivation and/or study skills.

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## Education in the USSR

*(Continued from page 196)*

The Mathematics Olympiad goes back over a hundred and twenty years. The competitions here start at the local level and the winners then go to district competitions, then to the republic level, and finally to the Soviet-wide finals. Many of the outstanding scholars of the present time are former Olympiad winners. Again, an informal extra-curricular activity seems to be providing for the "conservation of talent" that is neglected or studiously avoided in the regular school program. To what extent the Russians are successfully conserving the talent of their youth, or to what extent there is wastage because of what must be the deadening effect of having 99 per cent of the students put through a common program, is impossible for an outsider to ascertain. But it does appear that the Russians are finding that human beings are not as much alike as they would wish to believe, and that differentiation of program is a necessity if people are to be educated in ways that will make them most useful to the state—even if they are not as concerned as we are in the full development and happiness of the individuals for their own sake.

## Grammar Schools in England . . .

(Continued from page 207)

There is no set curriculum for a grammar school, as, indeed, there is no defined curriculum for any school in England and Wales. Many grammar schools have traditionally developed their own bias of subjects around a central core of English, mathematics, foreign languages, and sciences, and within each subject the syllabus is largely determined by the requirements of the General Certificate of Education. For this, a candidate has some 40 subjects from which to choose at ordinary level, and about 30 at the advanced or scholarship level.

This brief account of the secondary education of the academically gifted children in England and Wales has dealt with only the publicly-provided section of education. It should be mentioned in conclusion, however, that approximately 7 per cent of children of secondary school age receive their education in fee-paying independent schools. Most of these schools provide a grammar-type course, and indeed so far as men are concerned provide one-third of the population in British universities.

### Correction

Your attention is called to a typographical error on page 160 of the September issue of CJER.

See *number 1* under heading **Some Acceptable and Proper Practices**. The sentence which appears "*It is not acceptable and proper etc.*" should read:

*"It is acceptable and proper to inform pupils some days in advance that they are to take a standardized test."*

## Gifted Children

### —A Selected Bibliography—

J. C. GOWAN AND THELMA EPLEY

At the suggestion of the guest editor, Dr. Lillie L. Bowman, an annotated bibliography of the most important literature relating to the theme of the Tenth Annual Conference and the theme of this issue of the *CJER* follows.

Probably the most extensive work in this area has been done by the senior author of this list, Dr. John Gowan. Dr. Gowan compiled the more complete annotated bibliography on gifted child education which was published by the State Advisory Council on Educational Research in September 1956 as *Research Resumé Number 1*. In addition to his extensive writing, Dr. Gowan is an Associate Professor at San Fernando State College. A popular speaker, Dr. Gowan will deliver the principal address at the luncheon session of the Tenth Annual Conference.

1. Abraham, W. *Common sense about gifted children*. New York: Harper & Bros., 1958. Pp. xii+268.  
An easily read, well documented book. Covers such topics as who are they? What to do about them? The teacher, unfinished business, and a time for action.
2. Barbe, W. B. "Evaluation of special classes for gifted children," *Exceptional Children*, 22: 60-62, Nov. 1955.  
Evaluation of Cleveland's program by its graduates. Enjoyment of peers and better adjustment in later life were valued highly.
3. Barrett, H. O. "Intensive study of thirty-two children," *Personnel and Guidance Journal*, 36: 192-4, Nov. 1957.  
Data from this small but intensive study by experienced counselors indicates home training as a vital factor, negative attitudes and lack of well-rounded personality as possible traits of under-achievers.

4. Bloom, Samuel W. "The early identification of potential scientists," *School Science and Mathematics*, 55: 287-295, April 1955.

Research indicates that peak years of productivity come relatively early in scientists' lives; teachers in science and mathematics should speed up identification and training of gifted students to prepare for earlier creative work and should provide the stimuli and encouragement needed for college.
5. Bonsall, Marcella R., and Steffire, B. "The temperament of gifted children," *California Journal of Educational Research*, 6: 162-165, Sept. 1955.

Discusses temperament differences of achieving and non-achieving gifted boys of same socio-economic status.
6. Bowman, Lillie L. *Gifted Child Education in California*, California State Advisory Council on Educational Research, Research Resumé No. 2. San Francisco: California Teachers Association, 1955.

Details practices in Fresno, Long Beach, Los Angeles, Modesto, Oakland, Palo Alto, Riverside, San Diego, San Francisco, San Gabriel and Vallejo city school districts and in the Fresno and San Diego county schools.
7. Brandwein, P. F. *The gifted student as a future scientist*. New York: Harcourt Brace & Co., 1955.

Reviews a program for identification and development of students who are gifted in science. Proposals are made for local and national programs.
8. Burt C. "The inheritance of mental ability," *The American Psychologist*, 13: 1-15, Jan. 1958.

A scholarly discussion of the available research on the matter of inheritance of intelligence. Suggests multi-factors, such as, different types of genes and the combinations brought about through mating. Suggests also that rather than revive the age-old controversy of nature versus nurture it is better to conduct more extensive research on gifted children in terms of fundamental problems of psychogenetics.
9. California Elementary School Administrators' Association. *The gifted child: another look*. San Francisco, Calif.: The Association, 1958. Pp. 66.

A well planned, easily read coverage of the identification, program provisions, organization, and curriculum for gifted children. Does not give final conclusions but practical and specific enough to be of value.
10. California Teachers Association, Commission on Educational Policy. "The gifted in the public school." *California Teachers Association Journal*, 54: 8-9, Jan. 1958.

A statement of the policy of the State Council of Education regarding the education of gifted children. Deals with such areas as recognition and motivation, adjustments and needs, and community and school responsibility.
11. Chula Vista (California) City School District. *Resource material for extended education*, 1: 1956.

Vol. 1 contains book resources, covering all subjects and grade levels.

- Specific uses are given. Vols. 2 and 3 will include pamphlets, maps, kits, and special materials.
12. Cleveland Public Schools. *Cleveland's plan for gifted children*. Cleveland Board of Education, 1956. Pp. 32.  
Takes a gifted child from beginning through the sixth grade of the major work classes. Gives follow-up plan also.
13. Cutts, Norma E., and Moseley, Nicholas. *Teaching the Bright and the Gifted*. Englewood Cliffs, N.J.: Prentice-Hall, 1957. Pp. 268.  
Chapters include identification, enrichment, acceleration, grouping, community resources, motivating under-achievers, mental hygiene, guidance, and working with parents. Some research results are reported. Appendices contain helpful material.
14. De Haan, R. F. "Identifying gifted children," *School Review*, 65: 41-48, Mar. 1957.  
Suggests that procedures be concerned with interest, motivation, personality and social factors as well as aptitudes and capacities. Objective tests and observation on the approaches open at present for identification. Observations are most effective if guided by some instrument or key. Whatever the method, screening is a continuing process that is never completely finished.
15. De Haan, R. F., and Havighurst, R. J. *Educating Gifted Children*. Chicago: University of Chicago Press, 1957. Pp. ix+275.  
Fifteen chapters include suggestions applicable to the classroom, information for initiating programs, problems, screening. Appended are tests, organizations interested in gifted children, and a brief bibliography.
16. Educational Policies Commission. *Education of the Gifted*. Washington: National Education Association, 1950. Pp. 88.  
Deals with the education of gifted children on all levels. Emphasizes need for educational opportunities regardless of social or economic status.
17. Fund for the Advancement of Education. *Bridging the gap between school and college*. New York: The Fund, 1953.  
States objective of Fund as gaining greater flexibility. Describes four projects: acceleration at Andover, enrichment at Portland, admission with advanced standing at Kenyon, and early admission from tenth and eleventh grades at Chicago. Follow-up studies of Fund scholarship holders show no ill effects, and superior achievement in college classes. Stresses problem of gifted as part of other important educational issues.
18. Goldberg, Miriam. "Provisions for gifted children," *Exceptional Children*, 22: 277-9, Apr. 1956.  
Discusses enrichment, grouping, and acceleration as provisions for gifted children, and brings out technical points often lost sight of in general discussion.
19. Goodenough, F. L. *Exceptional Children*, Chapters 6-11. New York: Appleton-Century-Crofts, 1956.  
Six chapters include fundamental concepts, general characteristics, personal and social relations, educational provisions, adult achievements, and precocity in special talents.

20. Goodrich, H. B., and Knapp, R. H. *Origins of American Scientists*. Chicago: University of Chicago Press, 1952.  
Discusses and surveys the college climate which produces scientists, finding that small, protestant, liberal arts colleges in Mid-West and Far West have greatest potential. Implications with respect to teacher-student relations are of importance for programs for gifted.
21. Gowan, J. C. "Dynamics of the underachievement of gifted students," *Exceptional Children*, 24: 98-101+, Nov. 1957.  
The factors which tend to develop achievers or underachievers are treated comprehensively and resolved into early influences of home and school environment. Constant, reasonable goals and guidance inspired by stimulation are conducive to an achievement pattern.
22. Gowan, J. C. 1956 *Addition to annotated bibliography on education of gifted children*. California State Advisory Council on Educational Research, Research Resumé No. 5. San Francisco: California Teachers Association, 1957.  
Two hundred and fourteen annotations of 1956 literature and including former significant material not listed in previous bibliography. Prefaced by a discussion of trends and current practices.
23. Gowan, J. C. "Recent research on the education of gifted children," *Psychological Newsletter*, 9: 140-144, Mar.-Apr. 1958.  
An abridged restatement of a list of needed research proposed by a division of the American Psychological Association in 1954, including notices of representative research and summaries of findings. A bibliography is included. Gives a good framework for establishing what we know and don't know at present about gifted children.
24. Gowan, J. C., and Gowan, M. S. *The gifted child: an annotated bibliography*. California State Advisory Council on Educational Research, Research Resumé No. 1. San Francisco: California Teachers Association, 1956.  
The two hundred items are grouped into six major categories: general considerations; philosophy and objectives; physical, mental and social traits; organization of local projects; curricular adjustments; and evaluation and follow-up studies.
25. Haggard, Ernest A. "Socialization, personality and academic achievement in gifted children," *School Review*, 65: 388-415, Winter, 1957.  
Reviews a number of studies made by doctoral candidates at Chicago on longitudinal studies of 76 gifted children at the University of Chicago lab school. Noted differences in personality between high achievers in reading, spelling, and arithmetic. The latter appeared to have the best adjustments. Studies raised difficulties re socialization patterns in growing children and reasons for differences in reactions to stress. Research indicated that other children as well as parents and teachers exert these pressures. "The art that parents and teachers need to perfect involves applying of socialization pressures compatible with the child's current perceptions of his world and of himself in relation to it." High achievers were often found to have high anxiety levels. "The best way to produce clear thinkers is to help children develop into anxiety free, emotionally healthy individuals who are also trained to master a variety of intellectual tasks."

26. Hildreth, G. H. *Educating gifted children at Hunter College Elementary School.* New York: Harper and Brothers, 1952.  
A report of the organization, materials and teaching methods used in the experimental school for the gifted. A valuable reference on special classes with useful suggestions for the teacher who wishes to "enrich."
27. Kincaid, D. J. *Objectives of education for gifted children in California elementary schools.* Unpublished Ed. D. Thesis, University of Southern California, 1955.  
Asked what objectives were and how principals, supervisors, teachers, and parents differed in appraisals. Found effective thinking, basic skills, and citizenship top three. Parents led and supervisors trailed in special objectives for gifted.  
Abstract also published as California State Advisory Council on Educational Research, Research Resumé Number 4, San Francisco: California Teachers Association, 1956.
28. MacCurdy, Robert D. "Characteristics of superior science students and their own sub-groups," *Science Education*, 40: 3-24, Feb. 1956.  
A rigorous and detailed investigation of 600 national science talent search winners compared with college controls over 120 IQ on a 300 item inventory—relating to personality, attitudes, interests, activities, family history, associates, science teacher, decision to be a scientist—found 124 discriminating items. The general picture indicates such a person exhibits leadership qualities, self-control; is curious, rational, persistent, intellectually complex and non-gregarious; suspends judgment, is empirical, questions misuse of science; has nonathletic interests of solitary, scholarly, mechanical and scientific nature; is socially limited, scholarly, active and competitive in science; likes reading and studies. His family is stable, cultured, educated, democratic, permissive, leisurely. He is strongly influenced by associates, including scientific friends and scientists. His science teacher has served as father figure, is well trained, experienced, professional, permissive, progressive, and a good example. Student has made decision for science early, usually in elementary school, motivated by interest, success, and love of humanity.  
See also "Characteristics and backgrounds of superior science students," *School Review*, 64: 67-71, Feb. 1956.
29. McWilliams, Earl M. "The gifted pupil in the high school," *National Association of Secondary School Principals Bulletin*, 39: 1-9, May 1955.  
Observations in secondary schools listed on a nation-wide survey. A wide range of practices is described and special emphasis put on the role of the principal in creating a school climate, cooperative planning, personnel selection, public relations, guidance, in-service training, and continuous evaluation. Found that schools offering excellent education to the gifted were also meeting the needs of all pupils.
30. Martens, Elise H. *Curriculum adjustments for gifted children.* Washington, D.C.: United States Office of Education Bulletin No. 1, 1946. Pp. 82.  
Discusses basic objectives, problems of identification and treatment, types of curriculum organization and special provisions for gifted children and youth.
31. Martinson, R. A., and others. *Study of the gifted child.* Los Angeles: California Congress of Parents and Teachers, 1952.  
A comprehensive statement of various needs and provisions for gifted children, with special emphasis on the elementary school.

32. Martinson, R. A. "A study of public school education programs for the gifted," *California Schools*, 29: 69-70, Feb. 1958.  
Reports on the formulating and plans of the three year study of gifted in California. Lists personnel and counties to be used for study.
33. Metropolitan School Study Council. *How to educate the gifted child*. New York: Metropolitan School Study Council, 1956. Pp. 57.  
Concise pamphlet discussing needs, and curriculum adjustments for gifted children. Discusses role of teachers, parents and resource persons in community in such a program.
34. National Education Association, Research Division. "The education of gifted children," *Ten Criticisms of Public Education*, NEA Research Bulletin, 35: 163-169, Dec. 1957.  
An up-to-date survey of the research being done in the areas of identification, physical, social and emotional traits, and school programs. Attention is also given to teacher training and methods. Concise and well documented.
35. National Society for the Study of Education. Yearbook, 1958, Part II, *Education for the gifted*. Chicago: University of Chicago Press, 1958. Pp. iv + 420.  
Three main areas are treated: social factors, the gifted person, and the education of the gifted. The material is written by prestige figures in the area and gives much that will be rewarding to educators at all levels. It is a comprehensive strengthening of views and familiar beliefs in this field.
36. Newland, T.E. "The gifted," *Review of Educational Research*, 23: 417-431, 1953.  
Summarizes 80 research studies on the gifted covering the period 1944 to 1953. Indicates greater interest in social contributions of gifted people and more curiosity on the nature of ability. Extensive bibliography.
37. Newland, T. E. "Helping the exceptional child in the regular classroom," *Understanding the Child*, 25: 66-79, June 1956.  
Proposes the services of a consultant as the effective way to aid the classroom teacher with enrichment.
38. Otto, H. J. *Curriculum enrichment for gifted elementary children in regular classes*. Austin: University of Texas, Bureau of Laboratory Schools publication no. 16, 1955. \$2.00.  
Enrichment materials and techniques in art, music, physical education, arithmetic, social studies and English. Also chapter on identification and children's roles in class management.
39. Palo Alto (California) Unified School District. *Improving the instructional program for able students*. Jan. 1958. Pp. 40.  
A program of acceleration, enrichment, and grouping. Evaluation after two years indicates acceleration warranted, special classes increase achievement and positive attitude, and social relationships not jeopardized by special classes for portion of day.
40. Passow, A. H.; Goldberg, M.; Tannenbaum, A. J.; and French, W. *Planning for talented youth*. New York: Columbia University, Teachers College, Bureau of Publications, 1955.

- Describes project which embraces: 1) preparing materials, 2) providing assistance in experimental programs, 3) conducting studies on the nature and functions of talent.
41. Passow, A. H.; Beasley, Jane; and Brooks, D. "Adapting the curriculum to the needs, capabilities and talents of individual students," *Review of Educational Research*, 27: 277-86, June 1957.  
Reviews curriculum adjustments, surveys of programs for gifted and other exceptional children. Notes importance of evaluative studies. Concludes that gifted children profit from special provisions. Extensive bibliography.
42. Strang, Ruth M. *The adolescent views himself*. New York: McGraw-Hill Book Co., 1957.  
Contains valuable material on self-analysis of gifted teenagers.
43. Strang, Ruth M. "Gifted adolescents' views of growing up," *Exceptional Child*, 23: 10-15, Oct. 1956.  
Detailed research reveals areas of special concern to gifted youth; includes independence, responsibility, financial security, world peace, satisfactions in relation to peers.
44. Strang, Ruth M. *Guideposts for teachers of gifted children*. New York: Columbia University, Teachers College, 1958. Pp. 4, 15c.  
Covers the area of identification, how to provide needed experiences, how to motivate the underachieving child, and how to inspire the gifted child.
45. Strang, Ruth M. "Psychology of gifted children and youth." In W. Cruikshank (ed.), *Psychology of Exceptional Children and Youth*, Pp. 475-519. New York: Prentice-Hall, 1955.  
Discusses characteristics, identifications, motivation, development, social abilities, and implications of psychology of gifted.
46. Terman, L. M., and others. *Genetic studies of genius*: Vol. I., *Mental and physical traits of a thousand gifted children*; Vol. II., *The early mental traits of three hundred geniuses*; Vol. III., *The promise of youth—Follow-up studies of a thousand gifted children*; Vol. IV., *The gifted child grows up*; Twenty-five years' follow-up of a superior group. Stanford, California: Stanford University Press, 1925-1947, 4 vols.  
This famous series explores the abilities, background, interests, and later achievement of 1,000 gifted in a major longitudinal study.
47. Tyler, L. E. "Studies on motivation and identification of gifted pupils," *Review of Educational Research*, 27: 291-99, Oct. 1957.  
Advances broader concepts of giftedness. Presents reasons for lack of college-going. Also areas of high and low achievers explored; guidance, science talent, and a summary of research in area of gifted given.
48. Witty, P., (ed.) *The gifted child*. Boston: D. C. Heath, 1951.  
A complete text with authoritative writers condensing and bringing together the best information available on gifted children and their education. The extensive annotated bibliography constitutes the base for later listings.

# DOCTORAL DISSERTATIONS IN EDUCATION

## Accepted by California Colleges and Universities, 1957-1958

This classified report of doctoral dissertations in education accepted by California colleges and universities in 1957-58 represents these six institutions: Claremont Graduate School, College of the Pacific, Stanford University, University of California at Berkeley, University of California at Los Angeles, and University of Southern California.

Each study has been classified according to the scheme below under the division where the primary subject matter appeared to fit. There are numerous cross references, most of the dissertations being cross-referenced one or more times. Readers should take note of the whole classification scheme before searching for particular subjects since this scheme differs from those employed in most college and university libraries.

Many of these dissertations may be borrowed from the library of the college or university by means of inter-library loan through an established library (school system, college or university, city, county, or state). However, some institutions are now making dissertations available only through microfilm copy.

### CLASSIFICATION SCHEME

#### THEORY, HISTORY

Educational Philosophy, Principles  
and Trends  
Historical and Comparative Education

#### ADMINISTRATION

Organization  
Finance  
Buildings, Equipment, Transportation  
Personnel Practices and Teacher  
Status  
School and Community Relations  
Legislation, Law

#### RELATED SCIENCES

Educational Psychology  
Educational Sociology  
Growth and Development  
Measurement and Evaluation

#### TEACHER EDUCATION AND PROFESSIONAL STANDARDS

CURRICULUM AND METHODS  
Curriculum and Extra Curricular Activities, Extended Services  
Subject Matter Studies  
Art and Music  
Business Education

#### Subject Matter Studies (*Continued*)

Health and Safety  
Language Arts  
Mathematics and Science  
Physical Education  
Social Studies  
Other Subject Matter

#### Teaching Methods and Aids

**GUIDANCE AND COUNSELING**  
Guidance and Counseling  
Reporting Pupil Progress

#### ELEMENTARY EDUCATION

#### SECONDARY EDUCATION

#### HIGHER EDUCATION

**EXCEPTIONAL CHILDREN**  
Gifted  
Retarded and Handicapped

**VOCATIONAL AND INDUSTRIAL EDUCATION**

#### ADULT EDUCATION

#### OTHER

## THEORY

### Educational Philosophy, Principles and Trends

1. Bossone, Richard Maxwell. *The Educational Significance of Certain Major Works in Twentieth Century American Fiction and Drama.* U.S.C.
2. O'Neill, William Frank. *Jean-Paul Sartre's Concept of Freedom and Its Implications for American Education.* U.S.C.
3. Schrum, Marion M. *The Concepts of General Education Held by Five Eminent Nursing Educators.* Stanford.
4. Smith, Donald DeWitt. *Opinions of Americans in the Professions of Education, Law, and Medicine Regarding the Social Function of Education.* U.S.C.
5. Vanderpool, J. Alden. *The Profession of Education.* Stanford.

See also numbers 69, 82, 157 and 161.

### Historical and Comparative Education

6. Akeson, Merle A. *Intentions of Village and Government Subcultures in the Promotion of Rural Education in India.* Stanford.
7. Deffterios, Margaret N. *History of the California Congress of Parents and Teachers.* U.C.B.
8. Fink, Jerome S. *The Purposes of the American Colonial Colleges.* Stanford.
9. Geraty, Thomas Sinclair. *An Investigation of Higher Education in Iran, Iraq, and Lebanon.* U.S.C.
10. Lee, William Cheng Chian. *The opinions of American Professional Educators about Chinese Foundations from 1895 to 1945.* U.C.L.A.
11. Luca, Mark C. *A History of the Educational Practices of the San Francisco Art Museums.* U.C.B.
12. Plowman, Paul D. *Changing Conceptions of Superintendent-Board Relationships in the First Half of the Twentieth Century.* Stanford.
13. Qadry, Hind Tahsin. *Problems of Women Teachers in Iraq.* Stanford.
14. Sparby, Harry T. *A History of the Alberta School System to 1925.* Stanford.
15. Varughese, Mattackal Thomas. *An Evaluation of the Training Program for the Village Level Worker in India.* Claremont.

See also numbers 24, 55, 75, 76, 79, 80, 113, 123, 126, 141, 158 and 159.

## ADMINISTRATION

### Organization

16. Adams, Edmund Burke. *An Analysis of the Position of Elementary School Assistant Principal.* U.S.C.
17. Carlson, Richard. *Approaches to the Study of Administrative Organizational Structure.* U.C.B.

18. Gray, Raymond Guild. *The Organization of a County School District: A Case Study of a Process of District Consolidation and Administrative Reorganization.* Stanford.
19. Gruman, Allen Jepson. *High School Records and Services Facilitated by the Use of Punched Cards.* U.S.C.
20. Gustafson, William A. *The Administrative and Executive Functions in Small School Districts.* Stanford.
21. Hassinger, Jack Hamilton. *Criteria for Determining an Adequate Intermediate Educational Unit in California.* U.S.C.
22. Jarrett, Richard Whitmire. *The Activities of the Assistant Principal in Secondary Schools.* U.S.C.
23. Laufenberg, Francis. *The Concept of Internal Control in School Business Management.* U.S.C.
24. Roberts, Connell B. *The Administration of Navaho Education.* U.C.B.  
*See also numbers 12, 34, 37, 39, 44, 51, 52, 53, 54, 124, 137 and 140.*

#### Finance

25. Hurlbut, Edward V. *Financing Public School Adult Education in the State of California.* U.C.B.
26. Settle, William Jay. *Student Accident Insurance.* U.S.C.  
*See also number 23.*

#### Buildings, Equipment, Transportation

27. Larke, George R. *Inspection and Tests of the Material Quality of Instructional and Other Supplies.* U.C.B.
28. Nethery, Harry A. *Control of Pupil Transportation Costs in California Elementary Schools.* Stanford.
29. Picco, John P. *Identification of Factors Used in Selecting Mechanical Systems for School Buildings.* Stanford.
30. Walsh, Leonard C. *Planning Industrial Arts Facilities for Secondary Schools.* Stanford.

#### Personnel Practices and Teacher Status

31. Bjelland, Dale A. *Tenure in the Adult School.* U.S.C.
32. Carty, William T. *Recreation Programs for School District Personnel.* U.S.C.
33. Dennerlein, Gerald Edwin. *Factors Relating to the Measurement of Teacher Morale.* U.S.C.
34. Elliott, Arthur R. *Status, Functions, and Criteria for the Selection of California Public School Business Officials.* U.S.C.
35. Johnson, Russell Elmer. *The Development of Procedures for Formulating Policies Relating to Certificated Personnel.* U.S.C.

36. McLaughlin, Jack W. *Teacher Dissatisfaction and Teacher Dropouts.* U.S.C.
37. Nimmicht, Glendon P. *A Study of Successful Superintendents and Their Leadership Ability.* Stanford.
38. Peterson, Ted T. *Selecting School Administrators: An Evaluation of Six Tests.* Stanford.
39. Shapiro, David F. *Relationship of High School Size to Staff Relations.* Stanford.
40. Shea, John T. *Teacher Dissatisfaction and Teacher Dropouts.* U.S.C.
41. Sheldon, Martin Stephen. *Conditions Affecting the Falsification of Teacher-Selection Inventories.* U.C.L.A.
42. Stallings, John W. *Sick Leave for Certificated Public School Employees.* U.S.C.
43. Swenson, Leonard Ernest. *Selection of Prospective Elementary School Principals.* U.S.C.

See also numbers 13, 16, 17, 22, 28, 64, 72, 73, 76 and 85.

#### School and Community Relations

44. Andrews, Lloyd N. *Relationship of High School Size to Community Relations.* Stanford.
45. Covert, Spencer Elgant. *An Appraisal of the Community Use of the School.* U.S.C.
46. Ellsberg, Alan W. *An Evaluation of a Junior High School Program Designed to Ameliorate Ethnic Prejudices.* U.C.B.
47. Harris, Ben M. *Parental Committee Participation and Opinions About School Issues.* U.C.B.
48. James, Keith Franklin. *Corporal Punishment in the Public Schools.* U.S.C.
49. Lehman, V. Boyd. *An Effective Recreation Program Through Public School-Community Cooperation.* U.S.C.
50. Nunan, Seamus. *The Formulation of Editorial Opinion Toward Public Education.* U.S.C.
51. Reber, Donald David. *The Social Composition and Attitude of School Board Members in the State of California.* U.S.C.
52. Zeyen, Louis G. *Relationships of Planning Commissions and School Districts.* U.S.C.

See also numbers 4, 7 and 12.

#### Legislation, Law

53. Bowers, Paul R. *Statutory Provisions Relating to the Powers and Duties of Governing Boards of School Districts in California.* U.C.B.
54. Stewart, David B. *The Development of Constitutional Provisions Pertaining to Education in California.* U.C.B.

See also number 48.

## RELATED SCIENCES

### Educational Psychology

55. Deo, Pratibha. *A Comparative Study of Conditions Affecting Achievement in Algebra in Two Different Cultural Situations.* U.C.B.
56. Green, Donald Ross. *The Zeigarnik Effect: Differences Among Task- and Ego-Oriented Volunteers and Non-Volunteers.* U.C.B.
57. Hanna, Lawrence Nye. *The Effects of Phenothiazine on Rote Learning and on Concept Formation in Human Adults with Schizophrenia.* U.S.C.
58. Kowatrakul, Surang. *Some Behaviors of Elementary School Children Related to Classroom Activities and Subject Areas.* Stanford.
59. McGrath, William Harold. *Problem-Solving as Affected by Accessory Remarks.* U.S.C.
60. Mach, Leland Emil. *Personality Differences Between Academically Successful and Unsuccessful College Students as Measured by the Thematic Appreciation Test.* C.O.P.
61. Marshall, Minor Jack. *Awareness of Sex Role and Children's Interests.* U.C.B.
62. Sassenrath, Julius. *Transfer of Learning Sets Employing "Learning Without Awareness" Procedures.* U.C.B.
63. Sax, Gilbert. *Concept Acquisition as a Function of Differing Schedules and Delays of Reinforcement.* U.S.C.
64. Sorensen, Philip H. *Some Correlates of Pupils' Perceptions of Teaching Behavior.* Stanford.
65. Tschudy, James Jay. *Relationships Between Values and Certain Psychological Variables.* U.C.B.

See also numbers 37, 38, 65, 97, 104, 106, 111, 112, 132, 145, 146, 148, 150 and 156.

### Educational Sociology

66. Reuther, Carolyn Ann. *Self-Concepts of Intermediate-Grade Children of High- and of Low-Sociometric Status.* U.C.B.
67. Rowland, J. Kenneth. *A Psychometric Study of Student Attitudes as a Measure of Academic Motivation.* C.O.P.
68. Timmons, F. Alan. *A Content Analysis of Romance and Biography Story Types in Negro Magazine Communications.* U.S.C.

See also numbers 46, 51, 71, 82, 96, 129 and 145.

### Growth and Development

See number 104.

**Measurement and Evaluation**

69. Burns, Hobert W. *The Critical Incident Technique as an Instrument of Educational Research: A Philosophical Analysis.* Stanford.
70. Grenzeback, Jeanne Adeline. *Individual Differences in Movement: A Critical Survey of Research.* U.C.L.A.
71. Wheeler, Osborne Reilly. *An Investigation of the Relationship Between Parental Occupation and Test Performance.* U.S.C.

See also numbers 33, 38, 41, 60, 67, 109, 133 and 151.

**TEACHER EDUCATION AND PROFESSIONAL STANDARDS**

72. Bacon, Robert Vernon. *A Study of the Interest Patterns of Men Business Teachers in Public Secondary Schools.* U.C.L.A.
73. Bailey, Charles Weynard. *Effective Practices in Field Training Experience for Elementary Administrators in California.* U.S.C.
74. Cook, Claude T. *Perceptions of Functions and Competencies of Secondary Health Educators.* Stanford.
75. Diederich, Alphonsus F. *A History of Accreditation, Certification and Teacher Training in Catholic Institutions of Higher Learning in California.* U.C.L.A.
76. Georgiades, William. *Development of Requirements for the General Secondary Credential in California, 1935-1957.* U.C.L.A.
77. Michals, Bernard E. *The Preparation of Teachers to Teach Elementary School Science.* Stanford.
78. Miller, Harry K. *A Study of the Field Service and Research Units of Ten Schools of Education.* Stanford.
79. Partridge, Arthur R. *The Rise of the University School of Education as a Professional Institution.* Stanford.
80. Rosenhain, Geoffrey. *A Co-operative Australian American Denominational Teacher-Education Program.* U.C.L.A.
81. Saucerman, Willard H. *The Administration of Student Teaching in the Elementary Schools of Large Cities.* U.S.C.
82. Thomas, Donald R. *The Cultural Orientation of Teachers and Some Factors of Teacher Competence.* Stanford.
83. Wagstaff, Marian C. *An Evaluation of the Stanford Shell Merit Fellowship Program for 1956.* Stanford.
84. Walker, Harry A. *An Appraisal of the Teacher-Education Programs Preparing Instructors of Agricultural Mechanics for California Schools.* U.C.B.

85. Wallis, Earl L. *Factors Related to the Recruitment of Young Men for Physical Education Teaching.* U.S.C.
86. Wright, John William. *Analysis of the Emerging Position of Helping Teacher.* U.S.C.
87. Yerrington, Beverly Hall. *An Exploration of Some Factors Which Seem to Be Related to the Degree of Success in Directed Teaching in Physical Education.* U.S.C.
88. Young, Laurence Fred. *The Functions of Senior High School Physical Education Teachers in Colorado with Implications for Professional Preparation.* U.S.C.

*See also numbers 5, 10, 34, 36, 37, 38, 40, 43, 64, 90, 97, 122 and 135.*

## CURRICULUM AND METHODS

### **Curriculum and Extra Curricular Activities, Extended Services**

89. Johnson, Reuben Edwin. *Job Opportunities and the Implications for the Educational Program of Monterey Peninsula College.* U.S.C.
90. Ord, John E. *Critical Competencies of County School Consultants in the Improvement of Instruction.* Stanford.
91. Stromnes, Martin. *A Theory of Curriculum Construction Centering in the Natural and Social Sciences.* Stanford.
92. Vendien, Lynn. *The Relationship Between Leisure Time Activities and Physical Education Programs for Michigan High School Girls.* Stanford.
93. Welles, Jacob Sloat, Jr. *A Study of the Community-Service Projects of Secondary School Student Councils in the United States, with Suggested Guidelines.* U.C.L.A.
94. Williams, Richard H. *Articulation Problems Perceived by High School Freshmen.* Stanford.
95. Woods, Thomas E. *Relationship of High School Size to Curricular Offering.* Stanford.

*See also numbers 26, 46, 49, 112, 121, 136, 140 and 160.*

### **Subject Matter Studies**

#### **Art and Music**

96. Baumann, Victor Hugh. *Socioeconomic Status and the Music Preferences of Teen-Agers.* U.S.C.
97. Loughran, Bernice B. *Perceptions of Role Differentiation Concerning Supervisory Personnel in Art Education in the United States.* Stanford.

*See also number 11.*

**Business Education**

98. Baty, Wayne Murlin. *Incidental Learning of Vocabulary in Beginning Typewriting Classes.* U.S.C.
99. Hay, Leon Robert. *A Study of Office Automation and the Functions and Qualifications of Programmers for Electronic Data Processing.* U.S.C.
100. Pierson, Alvin P. *Contributions of Business Law to General Education and the Development of Course Materials for Use at a State College.* Stanford.
101. Wayne, William Calvin. *Minimum Teacher Direction Versus Conventional Teacher Direction in Beginning Typewriting.* U.S.C.

See also number 72.

**Health and Safety**

102. Dolton, Leonard John. *The Development and Application of Criteria to Stated Aims and Objectives of College Health Education at San Jose State College.* U.C.L.A.

See also numbers 74 and 110.

**Language Arts**

103. Buxton, Earl W. *The Effect of Writing Frequency and Guided Practice Upon Students' Skill in Written Expression.* Stanford.
104. Cottrell, Alice B. *A group Test for Ascertaining Ability in Phonetic Analysis Among College Freshmen.* Stanford.
105. Hedgecock, Elvin Loyal. *The Elements of Effective Speech in the Secondary School.* U.S.C.
106. McClarty, Edward L. *Auditing Ability Related to Achievement in Two College Telecourses.* Stanford.
107. Rea, Thelma M. *Discipline in Oral-Aural Discrimination as a Factor in Developing Power in Spelling.* Stanford.

See also numbers 98 and 122.

**Mathematics and Science**

108. Starrett, George Sylvester. *Determining Grade Placement of Heat Principles in the Junior High School Curriculum.* U.C.L.A.

See also numbers 55, 77, 91, 122, 135, 146 and 154.

**Physical Education**

109. Bond, Marjorie Helen. *Rhythmic Perception and Gross Motor Performance.* U.S.C.
110. Harkness, Wm. W. *The Contributions of AFROTC and Physical Education Experiences to Selected Components of Fitness of College Men.*

111. Niemeyer, Roy K. *Part Versus Whole Methods and Massed Versus Distributed Practice in the Learning of Selected Large Muscle Activities.* U.S.C.

See also numbers 87, 88 and 92.

#### Social Studies

112. Barbieri, Pina Josephine. *A Study of the Effects of Selected School Experience.* U.C.B.
113. Cruikshanks, Andrew N. *The Social Studies Curriculum in the Secondary School: 1893-1955.* Stanford.
114. Fox, Raymond B. *Teacher Difficulties in Organizing and Teaching the Problems of Democracy Course.* U.C.B.
115. Lee, John R. *Social Science Generalizations for Use in the Social Studies Curriculum: Expressing Religious Impulses.* Stanford.
116. Peck, Albert D. *Social Science Generalizations for Use in the Social Studies Curriculum: Expressing and Satisfying Esthetic Needs and Impulses.* Stanford.
117. Runge, James R. *Social Science Generalizations for Use in the Social Studies Curriculum: Producing, Exchanging, Distributing, and Consuming Food, Clothing, Shelter, and Other Consumer Goods and Services.* Stanford.
118. Rusteika, George P. *Social Science Generalizations for Use in the Social Studies Curriculum: Communicating Facts, Ideas and Feelings.* Stanford.
119. Sabaroff, Rose. *A Framework for Developing Map Skills in Primary Social Studies* Stanford.

See also number 91.

#### Other Subject Matter

120. Bernoff, Louis I. *An Experimental Study of the Teaching Effectiveness of an Electromechanical Device and Conventional Driver Training Methods.* U.S.C.

#### Teaching Methods and Aids

121. Gale, Francis C. *The Junior Museum and Its Program for the Education of Children.* Stanford.
122. Williams, Maurice Courtland. *Instructional Assistance Needed by English and Social Studies Teachers in the Secondary Schools of Los Angeles County.* U.C.L.A.

See also numbers 101, 119 and 120.

## GUIDANCE AND COUNSELING

#### Guidance and Counseling

123. Balson, Maurice. *A Suggested Guidance Program for High Schools of Victoria, Australia.* U.C.L.A.

124. Brizzolara, Carl J. *Public Schools for Juvenile Delinquents in California.* U.S.C.
125. Cummins, Carl Clinton. *An Analysis of Student Personnel Practices in Selected Industrial Arts Teacher Education Institutions.* U.C.L.A.
126. Dobles, Margarita. *Identification of Youth Problems in Costa Rica.* Stanford.
127. Lee, Margaret B. *Factors Associated with School Retention in a Group of Predicted Drop-Outs.* U.C.B.
128. Lubick, Emil Edward. *A Study of Job Placement Policies and Practices in California Junior Colleges.* U.S.C.
129. Morrison, Richard Lyle. *Status Factors in the Occupational Choice Process.* U.C.B.
130. Quanbeck, Thor H. *An Experiment in All-Faculty Counseling at a Private Junior College.* U.S.C.
131. Warren, Phyllis A. *Vocational Interests and the Occupational Adjustment of College Women.* U.C.B.
132. White, Becky J. *The Relationship of Self-Concept and Parental Identification to Women's Vocational Interests.* U.C.B.
133. Wright, E. Wayne. *A Comparison of Individual and Multiple Counseling in the Dissemination and Interpretation of Test Data.* U.C.B.

See also numbers 19, 66, 89, 134 and 155.

#### Reporting Pupil Progress

134. Harman, Samuel. *A Critical Analysis of Certain Personality and Classroom Behavior Factors of High School Seniors in Terms of Character Trait Report Card Marks.* U.S.C.

## ELEMENTARY EDUCATION

135. Bean, John E. *The Arithmetical Understandings of Elementary School Teachers.* Stanford.
136. Belknap, Robert H. *Planning a Functional Kindergarten.* Stanford.
137. Bennett, James Arthur. *Control Points in Elementary School Administration.* U.S.C.

See also numbers 16, 43, 58, 73, 77, 81, 107, 121, 145, 146, 153 and 157.

## SECONDARY EDUCATION

138. Burk, Carl James. *An Appraisal of Changes Following School Evaluations.* U.S.C.
139. Hilleary, Helena Wesser. *An Experimental Investigation Concerning Class Size.* U.S.C.
140. Marty, Ralph Erwin. *State Departments of Education and Their Influence on Secondary School Curriculum Improvement.* U.S.C.

*See also numbers 19, 22, 30, 39, 44, 74, 83, 92, 93, 94, 95, 105, 113, 142, 147, 148 and 149.*

## HIGHER EDUCATION

141. Glycer, Richard T. *Ritual and Ceremony in Higher Education.* Stanford.
142. McGinnis, John Francis. *A Forecast of Junior College Needs to 1975 in Los Angeles County and City.* U.S.C.
143. Milfs, Merle Morris. *A Study of the Policies, Practices, and Conditions Affecting Fraternity Scholarship.* U.S.C.
144. Wilcox, N. Elane. *A Survey and Analysis of the Cancer Teaching Programs of Thirty-one Schools of Medicine in the United States.* U.S.C.

*See also numbers 3, 8, 9, 60, 75, 78, 79, 89, 100, 102, 104, 106, 110, 128, 130, 131 and 155.*

## EXCEPTIONAL CHILDREN

### Gifted

145. Goldworth, Mary. *The Effects of a Fast-Learner Program on the Social Relationships of Elementary School Children.* Stanford.
146. Hinze, Richard H. *Achievement of Fast Learners in a Partially Segregated Elementary School Program, With Special Reference to Science Instruction.* Stanford.
147. Robinson, Franklin Willard, Jr. *The Administration of Special Academic Classes for the Gifted Pupil in High School.* U.S.C.
148. Sutcliffe, Charles E. *Factors Related to Low Achievement by High School Pupils of High Mental Ability.* U.S.C.
149. Westfall, Frank W. *Selected Variables in the Achievement or Nonachievement of the Academically Talented High School Student.* U.S.C.
150. Wilson, James P. *Some Characteristics of a Group of Children with IQ's of 120 or Over.* U.C.B.

**Retarded and Handicapped**

151. Adams, Andrew A. *Identifying Socially Maladjusted School Children.* U.S.C.
152. Godfrey, Barbara Barnard. *Leadership Training in Camping for the Handicapped.* U.S.C.
153. King, Louis J. *Activity Group Therapy with Three Groups of Selected Elementary School Children.* U.S.C.

*See also number 124.*

**VOCATIONAL AND INDUSTRIAL EDUCATION**

154. McMullen, James Donald. *Basic Physical Science Concepts Recognized as Useful to Selected Electrical Trades.* U.S.C.
155. Milliken, Daniel B. *Vocational Education for Junior College Students: A Method for Estimating Relative Course Needs.* Claremont.

*See also numbers 30, 84 and 125.*

**ADULT EDUCATION**

156. Hadlock, Alton Parker. *A Study of the Development of Critical Thinking Through Adult Discussion Groups.* U.C.L.A.
157. Hertert, Patricia C. *A Theory of Elementary Education for Adults.* U.C.B.
158. Jackson, George Alden. *A History of the Adult Education Program in the Los Angeles Public Schools.* U.C.L.A.
159. Tegner, Olaf Herman. *Adult Education in Sweden: Its Administration and Organization with Implications for Adult Education in California.* U.S.C.

*See also numbers 25 and 31.*

**OTHER**

160. Kelly, Lawrence B. *A Program of Christian Education in Selected Churches.* Stanford.
161. Young, Leo Vernon. *Moral and Spiritual Value of Youth in the Works of Dos Passos, Hemingway, and Steinbeck.* Stanford.

## BOOKS OF INTEREST—

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ANDREWS, MICHAEL F. (Ed.). *Aesthetic Form and Education*. Syracuse, N. Y.: Syracuse University Press, 1958. 105 p.

This booklet is an interesting publication which resulted from the first "Symposium Conference on Creative Arts Education" held at Syracuse University in 1957. The conjoint symposia were composed of prominent educators who were interested in what arts education has been, what it is, and what it should be. The contributors are well known and include such people as Susanne K. Langer, Robert Inglehart, Laura Zirbes, James L. Mursell, Jerome Hausman, Harold Taylor, Brewster Ghiselin, and Melvin M. Tumin.

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BARON, DENIS, and BERNARD, HAROLD W. *Evaluation Techniques for Classroom Teachers*. New York: McGraw-Hill Book Company, Inc., 1958. 297 p. \$5.50.

Basing the book on their experiences of teaching courses in "tests and measurements," these authors present the techniques and devices which are of aid to teachers in evaluating pupils' growth. The four major assumptions made are: (1) Teachers need to have the subject of testing presented with a minimum of statistics; (2) Teachers need to know the limitations of tests; (3) Teachers need to receive the substantial aid that appropriately used tests can give; and (4) Teachers should have these needs met in an effective manner.

The book covers the usual areas or subjects which educational measurement and evaluation college courses present. Some of these areas are as follows: identifying "good" tests, using of norms, estimating capacity for learning, evaluating pupil achievement, appraising personality, determining classroom social relationships, and studying interests and attitudes.

The presentations made are up to date, and the authors include recent data on sociometry in evaluation, personality inventories, and the role of evaluation in fostering continuous and appropriate student learning. There is a good discussion on the chronic problem of grades and report cards and an adequate description of a planned program of evaluation.

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CHASE, FRANCIS S. and ANDERSON, HAROLD A. (Eds.). *The High School in a New Era*. Chicago: The University of Chicago Press, 1958. 465 pages. \$5.75.

The publication is based on papers presented to a conference in 1957 which was sponsored by the University of Chicago and the National Citizens Council for Better Schools. Thirty-eight prominent educators considered the high schools, the challenges they face, and their capacity for meeting the demands of a new era. This book is a "must" for anyone concerned with the crucial issues facing secondary education today.

COLLEGE ENTRANCE EXAMINATION BOARD, COMMISSION ON MATHEMATICS. *Introductory Probability and Statistical Inference for Secondary Schools.* New York: The Board, 1957. 182 p. \$1.00.

This volume is an experimental edition for use in a high school course in probability and statistics. Such topics are presented as frequency distributions, mean and standard deviation, an intuitive introduction to probability, binomial distributions, sampling and testing hypotheses, theory of sets, permutations and selections, and mathematical induction. The purpose of the course is to present a functional, yet challenging, mathematics to gifted secondary school students.

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FURST, EDWARD J. *Constructing Evaluation Instruments.* New York: Longmans, Green and Company, Inc., 1958. 334 p. \$4.75.

The author has presented a functional book which attempts to "bridge the gap" between the apparent need of teachers on how to evaluate progress and the high state of test construction and development. Part One, entitled "Basic Problems," contains an excellent discussion of what to evaluate, defining behavior, selecting appropriate situations, bettering a record, and summarizing the evidence. This entire section of the book is actually the procedure followed by teachers as tests are used in the schools. Part Two consists of specific suggestions on constructing achievement tests.

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HALPIN, ANDREW W. (Ed.). *Administrative Theory in Education.* Chicago: The Midwest Administration Center, 1958. 188 p. \$3.00.

As the title suggests, the book is concerned with administrative theory—as opposed to a "how to do it" manual. The eight authors do not, however, delineate a theory of educational administration, but they recognize that a theory of administration is in its infancy. The authors suggest the need for developing, provide some general ideas, describe the different ways which might be used, indicate some of the issues involved, warn about "dead ends," and invite the reader to think with them about the problems.

Several thought-provoking questions are asked. For example, Talcott Parsons and James D. Thompson are concerned about the orthodox assumptions concerning the relation between line and staff personnel. Carroll L. Shartle has suggested a broad and eclectic approach which is interdisciplinary in nature. John K. Hemphill has examined the relationships between a leader and a group, which has led him to a theory which is hypothetico-deductive in character. Daniel E. Griffiths has viewed administration as decision-making, while Jacob W. Getzels has proposed that administration is a function of both the nomothetic and ideographic dimensions of the social system.

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MARKS, JOHN L., PURDY, C. RICHARD, and KINNEY, LUCIEN B. *Teaching Arithmetic for Understanding.* New York: McGraw-Hill Book Company, Inc., 1958. 429 p. \$6.00.

This book is designed for pre-service and in-service teacher education and deserves consideration for two important reasons. (1) The methodology is soundly presented so that a teacher should be able to guide the pupils' learning in a meaningful way. (2) Each topic or arithmetic process is developed thoroughly with several examples of good teaching supplementing the procedure. Two chapters need special commendation. "Planning Effective Learning Activities" is well done as it relates teaching theory and practice. Chapter Twelve, "Learning to Solve Word Problems," does an excellent job of explaining teaching procedures for a commonly accepted difficult process.

## Special Research News

*Special* commendation should be given to Lillie L. Bowman, Director, Bureau of Research, San Francisco Unified Schools, for her work as guest editor for the November issue of the *CJER*. Dr. Bowman is largely responsible for this edition, as she conceived the idea of obtaining manuscripts describing the conservation of talent in other countries, did most of the editorial work, and wrote the interesting editorial on page 194.

*Special* note should be made that the *CJER* is being distributed to all persons attending the Tenth Annual Research Conference. The Advisory Council on Educational Research authorized this distribution in an earlier meeting so that a greater number of people might become acquainted with the publication. The Council suggests that the conference participants ascertain if their districts or institutions have subscribed to the Journal and, if not, encourage them to subscribe.

*Special* thanks should be extended to Fred McDonald, Stanford; Hugh Bell, Chico State; D. Welty Lefever, U.S.C.; Harold Carter, U.C., Berkeley; and David Ryans, U.C., Los Angeles; for collecting all of the dissertations completed in California institutions of higher learning in the last year. Their work is compiled on pages 222-233.

*Special* loss is felt in David Ryans' departure from California. Dr. Ryans was a frequent contributor to the *CJER* and a valuable member of the Advisory Council. We all wish him the best of success in his new position as Chairman, Department of Educational Psychology, University of Texas.

*Special* changes have been made in the editorial staff of the *CJER*, beginning in September. Mrs. Anne Protopopoff, long time editorial assistant, is heading a new service of the California Teachers Association. Mrs. Protopopoff will be in charge of a research information center and library when the new CTA building is completed next year. Replacing her as editorial assistant is Mrs. Nancy Koehler, also a long time member of the CTA staff, who more recently has been associated with the *CTA Journal*.

*Special* attention of the Tenth Annual Conference participants is directed to the work of the co-chairmen, Harold Carter and Lillie Bowman, whose thinking and planning are responsible for the success of the meeting. All participants will receive a copy of the summary of the conference, to be produced as a Research Resume, and which should be available shortly after January.

*Special* interest of the participants is directed toward a recent publication of the National Education Association entitled, *The Identification and Education of the Academically Talented Student in the American Secondary School*. The publication is a summary of the February Conference of which James B. Conant, President Emeritus of Harvard University and former Ambassador to the Federal Republic of Germany, was chairman. Henry Chauncey, President, Educational Testing Service, and the author of an article in this issue, was one of the key speakers at the conference.

*Special* awareness of all Californians is called to an announcement by the Ford Foundation. A grant of \$170,000 was made to Stanford University to support basic research by Stanford's Institute for Communications Research. Stanford's School of Education will cooperate with the University of Tokyo's Faculty of Education in a study of post-war educational reforms in Japan through a grant of \$155,000 to the University of Tokyo.

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